

Rainy Days.—The number of days on which rain has fallen, as recorded by Signal Service observers, ranges as follows: New England, 13 to 12; Middle Atlantic States, 4 to 19; South Atlantic States, 5 to 19; East Gulf States, 11 to 15; West Gulf States, 6 to 14; Tennessee and Ohio valley, 7 to 13; Missouri valley, 5 to 8; Upper Mississippi valley, 6 to 11; Upper Lake region, 8 to 14; Lower Lake region, 8 to 13; Rocky Mountain stations, 0 to 13; California, 0; Oregon, 11.

Cloudy Days.—The number of "cloudy" days reported during the month by Voluntary Observers and Army Surgeons, ranges about as follows: New England, 0 to 7; Middle Atlantic States, 0 to 16; South Atlantic States, 4 to 16; East Gulf States, 7 to 13; West Gulf States, 3 to 8; Tennessee and Ohio valley, 1 to 9; Lower Missouri valley, 0 to 7; Upper Mississippi valley, 1 to 8; Lake region, 0 to 12; Rocky Mountain stations, 0 to 5; California, 0 to 4.

RELATIVE HUMIDITY.

The average relative humidity for the month ranges about as follows: New England, 67 to 81; Middle Atlantic States, 67 to 81; South Atlantic States, 71 to 82; East Gulf States, 71 to 82; West Gulf States, 65 to 76; Tennessee and Ohio valley, 66 to 78; Lower Missouri valley, 65 to 69; Upper Mississippi valley, 65 to 67; Upper Lakes, 61 to 74; Lower Lakes, 68 to 75; California, 43 to 71; Oregon, 48 to 76.

High stations not corrected for elevation report as follows: Pike's Peak, 61; Mt. Washington, 72; North Platte, 53; Cheyenne, 42; Denver, 36; Santa Fe, 34; Salt Lake City, 31.

WINDS.

In General.—The prevailing winds at Signal Service stations are shown by arrows on Chart No. II, from which it will be seen that the winds were northeasterly from Virginia southeastward to Florida; east along the immediate east Gulf coast; south and southeast from Texas northward to Minnesota; south or southwest in the Lake region; southwest along the New England coast, and from southwest to southeast in the Middle Atlantic States.

Total Movements.—The largest total movements have been as follows: Stockton, Tex., 15,789 miles; Pike's Peak, 13,471 miles; Cape Lookout, 11,648; Kittyhawk, 11,064; Cape Hatteras, 9,625; Cape Henry, 9,542; Tybee Island, 9,513; North Platte, 9,510; Dodge City, 9,064. The smallest movements have been as follows: Salt Lake City, 1,534; Lynchburg, 1,810; Visalia, 1,879; Nashville, 1,950; Indianapolis, 2,752; Cincinnati, 2,858; Knoxville, 2,971; Portland, Or., 2,852.

The highest velocities, in miles per hour, have been as follows: 3rd, Mt. Washington, NW., 60; 7th, North Platte, W., 72, and Barneget, E., 60; 8th, Dodge City, NW., 50; 14th, La Crosse, NW., 60; 16th, and 21st, Pike's Peak, W., 56; 17th, Galveston, NE., 60, and Indianola, S., 72; 18th, New Orleans, NE., 39; 19th, Mobile, SE., 35; 21st, Mt. Washington, NW., 72; 22nd, Bismarck, N., 72, and Tybee Island, NE., 60; 27th, Cape Lookout, SE., 78; 28th, Cape Hatteras, NE., 48, and Cape Lookout, S., 80; 29th, Cape Lookout, NE. 86; 30th, Bismarck, —, 72.

Local storms, tornadoes, &c., have been reported as follows, (unless specially noted, it is understood that the following list of high winds includes only local storms, and not such gales as prevailed simultaneously over a large region:) 1st, Maysville, Ky., a tornado of terrific violence and short duration, unroofing buildings and damaging shipping to a considerable extent. 2nd, Coleman City, Texas, violent storm, with heavy rain. 3rd, Yuma, Arz., terrific sand-storm, during which a large whirlwind passed up north side of Colorado river. 5th, heavy rain and wind-storm at New Orleans, doing considerable damage to shipping on north side of river. 11th, Coleman City, Texas, sand-storm, estimated velocity of wind 40 miles per hour. 12th, Colorado Desert, Cal., during a heavy thunder-storm between Pilot Knob and Cactus a water-spout burst, destroying four hundred feet of railroad track. 14th, La Crosse, Wis., northwest gale, doing damage to buildings.

VERIFICATIONS.

Indications.—The detailed comparison of the tri-daily weather indications, with the telegraphic reports for the succeeding twenty-four hours, shows a general percentage of omissions of 0.4 per cent., and of verifications of 85.5 per cent. The percentages of verifications for the four elements have been: weather, 88.6; wind, 83.7; temperature, 88.5; barometer, 81.0. The percentages of verifications by geographical districts have been: New England, 83.0; Middle Atlantic States, 85.5; South Atlantic States, 86.7; East Gulf States, 84.2; West Gulf States, 87.2; Lower Lake region, 86.2; Upper Lake region, 85.9; Tennessee and Ohio valley, 83.1; Upper Mississippi valley, 88.0; Lower Missouri valley, 85.0. Of the 3,588 predictions that have been made, 116, or 3.1 per cent., are considered to have entirely failed; 109, or 3.0 per cent., were one-fourth verified; 422, or 11.8 per cent., were half verified; 444, or 12.4 per cent., were three-fourths verified; 2,497, or 69.6 per cent., were fully verified, so far as can be judged from our weather maps.

Cautionary Signals.—During the past month 163 Cautionary Signals have been displayed at 47 stations on the Gulf and Atlantic coasts, and on the Lakes, of which 94, or 58 per cent., were reported verified within 100 miles of the station. Thirty-one cases of high winds, where no signals were displayed, have also been reported from these stations.

NAVIGATION.

Stages of water in rivers.—In the table, on Chart No. III, are given the highest and lowest readings on the river gauges for the month, from which it will be seen that the central Mississippi fell from the middle of the month steadily to the end, the fall at St. Louis and Keokuk being about four feet; similarly the Missouri also fell throughout the month by about one foot at Yankton, and two feet six inches at Leavenworth. The water has been at some stations remarkably low.

Low Water, detrimental to navigation, has been reported as follows: *Mississippi*, 16th, Keokuk, Iowa, river low, delaying light draft boats; 22d, river still falling, canal closed; reports of low water at St. Louis and Alton. 30th, Shreveport, steady fall in river during month, navigation obstructed; reports of low water also come in from the Ohio at Evansville and Louisville.

Special Phenomena.—On the 21st, just before day-break, a wave two feet high, similar to the earthquake waves in the Atlantic and Pacific oceans, swept across Lake St. Clair, from west to east. On the 24th, at Marquette, Mich., between 10 a. m. and 3 p. m., the wind being light from the SE., the water in the Lake fell fifteen inches.

TEMPERATURE OF WATER.

In General.—The temperatures of water, as observed in rivers and harbors, are shown in the table on Chart No. III.

Maximum and Minimum Temperatures.—The highest maxima have been 90° at Galveston, 88° at Wilmington, 86° at Mobile and Augusta, 85° at Montgomery, 84° at Charleston and Savannah, and lowest minima have been 45° at Duluth, 46° at Eastport, 55° at Portland, Me., 56° at Marquette, 58° at Alpena and Escanaba, 59° at San Francisco.

Ranges of Temperature.—The least ranges have been: 2° at San Francisco; 3°, Eastport; 4°, Marquette; 6°, Portland, Me., Wood's Holl, New London, Buffalo and La Crosse; and largest ranges have been 20°, Galveston and Wilmington; 21°, Duluth.

ATMOSPHERIC ELECTRICITY.

Thunder-storms were reported at stations in the respective States as follows: 1st, Ala., Nev., Conn., Ill., Kan., Miss., Mo., N. J., N. C., Pa., Tex., Va., W. Va., Fla., Tenn., Ga., Ind. Ter. 2nd, Col., Wy., Fla., Mich., Miss., N. Y., Tex., N. C. 3rd, Dak., Col., Kan., Me., N. Y., Tex., La., Ariz. 4th, Dak., Col., Mich., Miss., Tex., Wis. 5th, N. Y., Col., Iowa, Me., Miss., Neb., Tex., Vt. 6th, Ga., Iowa, Me., Miss., N. Y., N. C., Tex., Wash. Ter. 7th, Dak., Wy., Fla., Iowa, Miss., S. C., N. C., Fla., Ga., Minn. 8th, Col., Dak., Kan., Mo., Neb., N. J., Tex., Ind. Ter., Ga. 9th, Ga., Ill., Miss., Mo., Tex., Fla. 10th, Fla., Ga., Ind., Mich., Miss., Ohio, Tenn. 11th, Cal., Fla., Ga., N. C., Pa., Tex., W. Va., Ariz. 12th, Dak., Wy., Md., Miss., Mo., N. J., N. C., Ohio, Pa., Tex., Utah, Va., W. Va., N. Y., La., D. C. 13th, Dak., Wy., Fla., Ill., Kan., Md., Miss., N. J., N. Y., N. C., Ohio, Tex., Va., W. Va., S. C., Ga., D. C., Minn. 14th, Dak., Ill., Iowa, Kan., Md., Miss., Mo., Neb., N. C., W. Va., Ga., Wis., Ind. Ter., Tex. 15th, Dak., Va., Ill., Iowa, Ky., Md., Miss., N. C., Pa., Tex., S. C., Ga., Ind. 16th, Ill., Ind., Me., Mass., N. Y., Tenn., Va., Ky. 17th, N. Y., Va., Ind., Me., Md., Miss., N. J., Ohio, Pa., Tex., Vt., W. Va., Ind. Ter., D. C. 18th, Iowa. 19th, Fla. 20th, N. Y., Ga., S. C., N. C., Fla. 21st, Col., Me., Mass., N. Y., Ga. 22nd, Dak., Ga., Me. 23rd, Dak., Neb., Col., Ga. 24th, Neb., Iowa, Wis., Mich., Dak., N. Mex. 25th, Tex., Ill., Iowa, Kan., Mich., Mo., Wis., Ind. Ter., Neb. 26th, Dak., Iowa, N. Y., Me., Mich., Neb., Ohio, Pa., Vt., Wis., Mo., Ga., Tex. 27th, Conn., N. Y., Wis., Tenn., Mich., Ala. 28th, N. Y., Pa., Vt., N. C., Mich. 29th, Mich., Wis. 30th, Iowa, Neb., Wis.

Distant Thunder and Lightning was reported from stations, in the respective states, as follows: 1st, Ga., Kan., Md., Mass., N. Y., Pa., S. C., Ind. Ter., La., Tex. 2nd, Md., Mass., N. C., Va., Ga., La., Tex. 3rd, Tex. 4th, Iowa, Neb., Wis., Dak., N. Mex., Minn. 5th, Me., Mass., Ga., Tex. 6th, Ga., Mich., N. C., La., Dak. 7th, Neb., S. C., Pa., Ga. 8th, Md., Tex. 9th, Tenn., La., Me., Tex. 10th, N. C., Ohio, Tex., Ind. 11th, N. C., Ohio, S. C., Ga., Ind. Ter., Tex. 12th, Md., N. C., S. C., Ga., Iowa, Tex. 13th, Iowa, Neb., Ohio, Ga., Dak., Minn. 14th, Md., Va., Iowa, Ind. Ter., Dak. 15th, Tenn., Wis., Ga. 16th, Ill., Ind., Kan., Mo., Tenn., Ohio, Iowa, Ind. Ter. 17th, Va., Ohio. 19th, Ga. 20th, Utah. 23rd, Fla. 24th, Wis., Wyo., Neb. 25th, Ill., Iowa, Kan., N. Y., Wis., Vt. 26th, Ill., Iowa, Kan., Wis. 27th, Mo., Ga. 28th, Md. 30th, Ill., Mich., Wis.